

CLAIMS

What is claimed is:

1. An apparatus for loading a disc cartridge in a drive, where the disc cartridge includes a shutter and a reference surface having a reference area and a low area formed in the reference surface to have a low surface below the reference surface to form a step therebetween, the apparatus comprising:

a tray to accommodate the disc cartridge and comprising an interference portion which protrudes from an upper surface of the tray to have a height corresponding to a height of the step; and

a blocking element disposed adjacent the tray at an opening into the drive,

wherein:

when the disc cartridge is received on the tray in a normal orientation, the interference portion is received within another portion of the low area without interfering with a movement of the shutter in the low area, and

when the disc cartridge is accommodated on the tray in an abnormal orientation, the interference portion contacts and interferes with the reference area such that the cartridge is blocked by the blocking element as the tray moves toward the opening of the drive.

2. The apparatus as claimed in claim 1, wherein the interference portion has a shape of a protrusion.

3. A housing for to accommodate and load a disc cartridge which holds a disc, the housing comprising:

 a case having an opening and a blocking element; and

 a tray on which the disc cartridge is accommodated at an accommodation position and which includes an interfering element that selectively aligns the disc cartridge into first and second orientations according to an interaction with corresponding first and second surfaces of the disc cartridge,

 wherein:

 if the disc cartridge is accommodated in the first orientation, the tray and the accommodated disc are received into the case through the opening, and

 if the disc cartridge is accommodated in the second orientation other than the first orientation, the tray and the accommodated disc are blocked by the blocking element and are not received into the case through the opening.

4. The housing of claim 3, wherein:

 the disc cartridge includes the first surface disposed at a first level and the second surface disposed at a second level other than the first level and forming a step therebetween,

 when the disc cartridge is disposed in the first orientation at the accommodation position with the interfering element being received at the second surface, the tray is moveable past the blocking element into the opening, and

when the disc cartridge is disposed in the second orientation at the accommodation position with the interfering element being received at the first surface, the blocking element prevents the tray from entering the opening.

5. The housing of claim 3, wherein the interfering element allows the disc cartridge to remain substantially parallel with a surface of the tray when in the first orientation, and elevates a portion of the disc cartridge away from the surface of the tray so as to contact the blocking element to prevent entry into the opening when in the second orientation.

6. The housing of claim 3, wherein:

the disc cartridge further comprises a shutter that is moveable to allow access to the disc,

when accommodated on the tray in the first orientation, the shutter is disposed between the opening and the first surface, and

when accommodated on the tray in the second orientation, the first surface is disposed between the opening and the shutter.

7. The housing of claim 6, wherein the shutter moves within an area adjacent to and coplanar with the second surface.

8. The housing of claim 6, wherein the shutter moves within an area adjacent to the second surface at which the interfering element is not received.

9. The housing of claim 7, wherein the shutter moves within an area adjacent to the second surface at which the interfering element is not received.

10. The housing of claim 3, wherein:

the second surface comprises a recessed surface having a depth below the first surface; and

the interfering element has a height above a surface of the tray that is at or less than the depth of the recessed surface of the disc cartridge such that, when received in the first orientation, the disc cartridge is substantially parallel with the surface of the tray.

11. The housing of claim 10, wherein:

the blocking element is disposed over the surface of the tray by a first distance, and when received in the second orientation, the interfering element contacts the first surface of the disc cartridge, and the height of the interfering element is sufficient to elevate a portion of the disc cartridge away from the surface of the tray by at least the first distance such that, during insertion into the opening, the elevated portion of the disc cartridge contacts the blocking element to prevent entry into the opening.

12. The housing of claim 3, further comprising a rail along which the tray is slidably received in the housing.

13. The housing of claim 3, further comprising an optical pickup unit to transfer data with respect to the disc.

14. The housing of claim 3, wherein the tray further comprises a disc accommodation area on which the tray receives another disc not within the disc cartridge.

15. The housing of claim 3, wherein:
when accommodated at the first orientation, a centerline of the disc cartridge is disposed at a first angle that is substantially parallel with a direction in which the tray is loaded into the case through the opening, and

when accommodated at the second orientation, the centerline of the disc cartridge is disposed to be sufficiently non-parallel with the direction so as misalign the disc cartridge to extend sufficiently away from the tray to contact the blocking element so as to prevent entry through the opening.